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ABSTRACT

To determine how children's knowledge about word boundaries differs at given points in time, writing samples were gathered from nine kindergarten children using similar procedures. Also examined were children's statements while composing and rereading as well as children's questions and information elicitations. Three of the subjects were judged to be high, three moderate, and three low in emergent reading ability. Data analysis showed that high emergent reading ability children did not ask word boundary questions; rather, they displayed and discussed discoveries they had already made or were making. The moderate children differed from the high children in the amount of written composition as well as in the nature of the writing systems they used. They used questions and other more direct ways of eliciting aid. Many word boundary problems were found in children judged to be low in emergent reading ability. These children also expressed many questions and elicited needed information. An extended example of word boundary problems for one moderate ability child demonstrated the child's ability to ask questions and elicit aid from an adult, typical in the parent-child relationships of fluent young readers. (HOD)

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Kindergarteners Deal With Word Boundaries

Elizabeth Sulzby

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The past decade has contained a spate of research concerning young children's confusions about the structural characteristics of written text and its match with oral speech. Young children do not automatically segment oral speech the way adults would expect; often children do not consider all of the acoustic units that adults call words to be "words" (Downing & Oliver, 1973-74; Ehri, 1975; Ferreiro, 1978; Gleitman & Rozin, 1973). Meaningful and structural aspects of words and their referents are treated in ways that are confusing to an adult (Berthoud-Papandropoulou, 1978; Papandropoulou & Sinclair, 1974; Sulzby & Templeton, 1980) and, when young children start to read, they often have difficulty

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making voice and print-pointing match (Clay, 1978; Sulzby, 1981a). Finally, children's use of metalinguistic terms is often unusual from an adult's perspective (Sulzby, 1979).

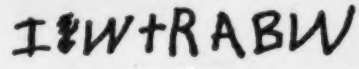
The purpose of this paper is two-fold. I will describe the knowledges that nine kindergarten children show about word boundaries as reflected in their handwritten compositions and in statements they make while composing. Second, I will describe questions such children ask about word boundaries, including one extended example. This example is taken as a possible exemplar of the kinds of questions and elicitation of information that children use at home with parents (Clark, 1978; Durkin, 1966; Read, 1975; Tizard, 1981). In this example, the child shows awareness of a word boundary problem; asks for and receives new information about word boundaries; re-states and clarifies his questions and statements; and then uses new information from his adult partner, acknowledging at the conscious level that a puzzle has been partially solved.

Research in early writing attempts (Bissex, 1980; DeFord, 1980; Harste, Burke, & Woodward, 1981; Sulzby, 1981b) has shown that children are capable of showing awareness concerning word boundaries in many different and usually unconventional ways. The absence of physical space in children's writing is not necessarily a sign that the young writer is unaware of "space" as a marker or of "word" as a separable unit. On the other hand, children do not automatically begin to use space conventionally;

rather, they represent in unconventional ways their cognitive awareness of how word boundaries work.

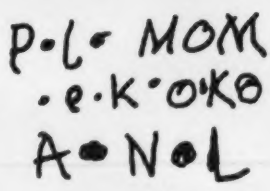
For example, we know that many young children use invented spelling systems in their early writing (Beers & Henderson, 1977; Bissex, 1980; Read, 1975; Sulzby, 1981b). Sometimes children use only one letter, usually initial consonants, for each primary segment. Some children do this at an early stage of writing as if that is all of the word that they are aware of; other children, and sometimes the same children at more mature points, use only one letter per word unit but indicate that the single letter "stands for" the full word, as shown in these two examples, with readings.

Example 1:



(I wanted to ride a big wheel.)

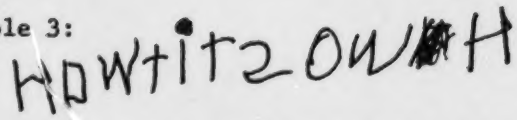
Example 2:



(Prince Charming Mom
helped [dictated as owned].
King owned castle (KO).
A nest laid.)

As children explore written language, many of them begin to use more complex spelling systems that seem to show regularities in development (see Gentry & Henderson, 1978; Morris, 1981). These children often string together long sentences with no internal spaces nor spaceholders, as if the child is unaware of boundaries. Example 3 consists of slightly over a clause with no boundaries.

Example 3:



If, however, one listens to such a child while the child is composing, one can often detect sophisticated segmentation both between and within words. For this paper, we are concerned with the segmentation between words. The segmentation in the above sequence can be observed, first (example 4) in voicing during composition and, second, in re-reading after composition (example 5).

Example 4: Child: He--wan--ted--it. . . .
He wante!--it--he wanted it--so heee--
he, he, he, E.

Example 5: Child: He----wan-ted-it----so----he----(finger-pointing while looking at print).

Bissex (1980), DeFord (1980), and Sulzby (1981a) have given examples of other devices that begin to show up in children's writing that indicate that they are aware of the need for some way of preserving word boundaries. Interestingly, they do not automatically use spacing the way that adults do. Clay (1975) uses the term the "space concept" to refer to the importance of space as a signal of word boundaries. She discussed the function of boundaries (p. 53): "When words are to be combined into word groups a space must be used to signal the end of one word and the beginning of another." For some young children, however, words are not considered to be exclusive, non-overlapping units (see Richard, Example 13). Thus

one word may be included within another, overlapping with it, or even overlapping two other words. For such children, the space concept is indeed a complex problem to be solved.

Some children use a columnar display to solve word boundary problems; others use large dots (as seen in example 2), slash marks, or boxes; some have even been known to use separate bits of paper (Bissex, 1980; Sulzby, 1981b). There is little evidence, however, of how children differ from each other and over time. Research in early literacy is still at a very exploratory stage. Additionally, evidence is lacking about how children gain and use information from adults about word boundaries. The purpose of this study was to gather writing samples from children using similar procedures over time in order to explore how children's knowledges about word boundaries differ at given points in time and how children change across time. The products examined include the writing samples and children's statements while composing and re-reading. Second, children's questions and information elicitations are examined in order to suggest how children obtain and use new knowledges about word boundaries.

Method

Subjects

Nine kindergarten children were selected from 24 children in a kindergarten classroom in a suburb north of Chicago. The nine children were chosen as part of a longitudinal study of beginning reading and writing; three were judged to be high,

three moderate, and three low in emergent reading ability (ERA). These judgments were based upon results of "General Knowledges About Written Language," the first in a series of five studies (described in Sulzby, 1981a) and upon teacher judgment. The children's code names, ages as of January 1, 1981, and sex are given below; names and date at time of examples will be used in the results section.

ERA classification:	Name:	Age:	Sex:
High	Betsy	5-9	female
High	Nicole	5-9	female
High	Jodie	5-9	female
Moderate	Andrea	5-7	female
Moderate	Chad	6-1	male
Moderate	Douglas	5-4	male
Low	Michael	5-8	male
Low	Noreen	5-4	female
Low	Richard	5-1	male

The selection plan was to have as even a distribution of sex and age as possible; results of the first study indicated that the males were consistently below the female distribution in this classroom.

Date Source

The data source for this paper consists of transcripts from two studies in which three sets of dictated and handwritten stories were gathered. For convenience and since the methodology was the

same across the studies, these data sets will be called Trial 1 (January and early February), Trial 2 (February), and Trial 3 (April and May). In each trial, children were asked to do three things that people can do to write a story: to tell the story from beginning to end to a listener; to dictate a story to a scribe; or to write the story themselves. Since the subjects were kindergarteners, they were encouraged to write the story using whatever writing system they preferred, to "do it your way." The children were also asked to re-read and to edit the two written versions.

All exchanges with the examiner were recorded and transcribed. Transcriptions were checked by a minimum of two transcribers and parts have been checked additionally during subsequent analyses. Transcripts and children's written products were assembled into protocols that range from 12 to 43 pages in length.

The written stories for each child were examined to determine how the child represented word boundaries during the three trials. The protocols were searched for additional evidence within the composition voicing and the re-reading about the nature of the child's concepts about word boundaries. Such evidence included questions children asked and other ways they used to elicit information from the examiner. Two judges agreed 100% about the selection and had no substantive disagreement about the interpretation of each example used.

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Results

The results consist of two sections. The first section describes the handwritten products of the nine children grouped by emergent reading ability. It also summarizes children's questions and information elicitations about word boundaries. The second section consists of an extended example of one child's struggle with a word boundary problem. Both sections include interpretation.

Handwritten Products

High emergent reading ability children. These children, Betsy, Jodie, and Nicole, can be described as children who do not ask word boundary questions. Rather, they display and discuss discoveries they have already made or are making.

Betsy is the most mature composer and reader. She composed complete stories filling 16, 12, and nine lines on 8½ by 11 inch paper, writing left to right, for her three trials, respectively. She used both conventional and invented spelling. She showed evidence of conventional spacing between word units which became more conventional and clearly spaced over trials. She seemed to understand the purpose of spacing but she would occasionally use units that adults segment as unanalyzed wholes, a characteristic not uncommon to young children in oral as well as written language (Sulzby, 1978).

Example 6, Betsy, 2-10-81 (Trial 2):

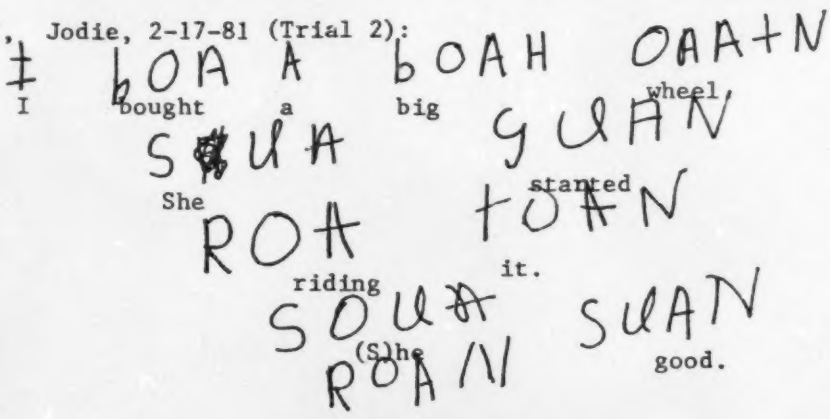
line 3: She ASCtHAR MOtnR (She askedher mother

line 4: If she CODRIDE IT if she couldride it.)

Chances to re-read with and without pointing and to locate and replace individual words gave evidence that Betsy treated words as stable, isolatable units. Voicing during composition indicated that she treated ASCtHAR as a unit, but she located and underlined ride as a separate unit and suggested travelled as a possible but not satisfying replacement.

Jodie[2] reads almost as independently as Betsy. She reads from conventional orthography and seems to use letter-sound information as well as other cues. Her writing system uses spaces even more clearly. Her writing system, however, is quite different. She favors the use of "graphic placeholders," particularly using elements from her first and last names. Jodie uses some conventional spellings and variants of conventional spelling (for example, Ni for in). She is capable of using invented spelling but she did not treat it as stably as she treated graphic placeholders. For example, she invented big as BIK, then later sounded it out as /bik/. Here is a full story, highly dependent on name elements SU and AN. Her reading during composition is indicated below each unit.

Example 7, Jodie, 2-17-81 (Trial 2):

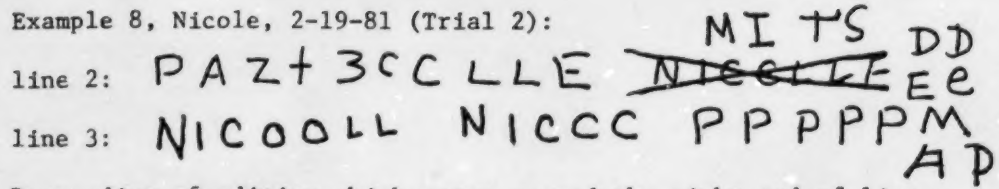


Jodie is one of the children who discussed her writing system. Both she and Nicole[2] (below) explained to their examiners that "this is how I do it." During Trial 3, Jodie commented specifically on why invented units using name elements were like Jodie but were different words: JOIE, JODE, JODI. Once she composed such a unit, she treated it stably during that composing and re-reading session but the same oral word (came) could have three different spellings on the same page (KAM, JOIE, JODE).

The first two "high" children showed steady progress toward conventional use of spacing but Nicole's productions seemed more erratic. On Trial 1, she used some conventional spelling with some graphic placeholders (name elements and other letter strings, repeated letters from the alphabet). In Trial 2, she wrote using graphic placeholders, then edited using invented spelling. Nicole talked about invented spelling and invented reading, and said that she "did it my way." In editing, she located the word sister as the string NICCLLE, then said she found it because "I read it, I spelled it my own way, and then I read it--and it said sister." She replaced NICCLLE with an invented spelling string with internal spacing which may have been influenced by the space left on the page (cf. Clay, 1975).

(Editor, go on to page 11 for example 8.)

Example 8, Nicole, 2-19-81 (Trial 2):



Re-reading of editing which wraps around the right end of lines 2 and 3: My (MI) sister (TS) didn't (DD) give (Ee) me (M) a push (AP).

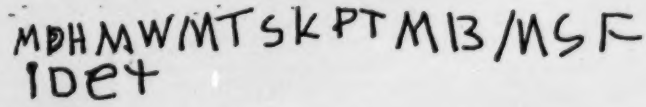
Nicole is not yet reading independently. In dictating and in re-reading, she segmented orally between words but she did not show clear evidence of using spacing as a primary cue to keep her voice, eyes, and the print aligned (cf. Clay, 1978). Instead, she spoke of using some known words and letter cues, both from the scribe's conventional spelling and from her own inventions. Her final production (Trial 3) was one of the least mature in appearance. She used only one known word; the rest of her writing consisted of long strings of repeated letters with no conventional internal variations. In her re-reading, however, she treated the print as if it represented her story, using word-by-word phrasing and reading intonation.

Moderate emergent reading ability children. The "moderate" children differ from the "high" children in the amount of written composition as well as in the nature of the writing systems they use. Questions and other more direct ways of eliciting aid appear. One of these children, Douglas, asked numerous questions about word boundaries; he is used as the example discussed in the second section.

Many children who use invented spelling run all of their

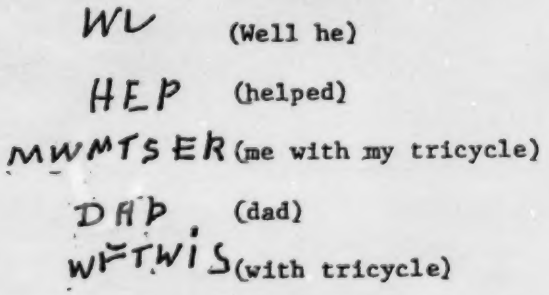
"words" together, first as initial consonants alone, and later with even more of the word elements represented. Andrea's three trials followed this pattern with Trial 1 mostly one letter per word and then with final consonants and medial vowels entering more often in the two subsequent trials. In Trial 2, she also used a columnar display which has been noted (Bissex, 1980; Sulzby, 1981b) as a way which young children may represent word boundaries.

Example 9, Andrea, 2-3-81 (Trial 1):



Re-reading: My dad helped me with my tricycle (TSK). He pushed (PT) me. [He let me do it] by (B) myself (MSF). I (i) did (D) it (ET).

Example 10, Andrea, 2-17-81 (Trial 2):



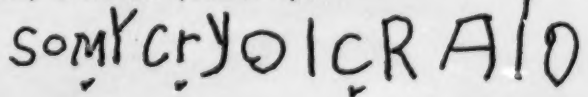
Douglas's output was much less than the four girls described thus far but he showed steady increase toward the use of conventional use of space to show word boundaries. Trial 1 consisted of only one written letter for one word (W for wanted), a Y (intent not stated, although it could have been a duplication of the /W/), and

his name with no spacing. In Trials 2 and 3, he used invented spelling for one clause each time. In Trial 2 the word units were all run together but in Trial 3 spacing was used appropriately. For Trials 2 and 3 his oral segmentation during composition and re-reading showed conventional word units except for wanted which he pronounced as two distinct oral units.

Douglas asked many questions about word boundaries. He pursued his confusions, as will be described later, until he seemed satisfied.

Chad, the third "moderate" emergent reader, is the second child to show variable rather than steady progress. Chad's chosen writing system was to copy from words in the environment (on the crayon box, tape recorder, or the mural on the cafeteria wall). He showed evidence of spacing awareness by copying whole units (in contrast to Mike, below) and by occasionally putting his fingers between these units while copying. In re-reading Trial 2, Chad recited a story to go with the copied words although, of necessity, his speech and print were not aligned. He did not seem to understand the notion of matching an oral word to a written unit; he re-read by saying several story words at the same time that he pointed to one word within his copied "text."

Example 11, Chad, 2-17-81 (Trial 2):

line 1: 

pointings: 1 2 3

re-reading for each point: 1= Well, when he gets; 2= on; 3=big wheel

Low emergent reading ability children. In the children judged to be low in emergent reading ability we found many word boundary problems. The children, even though their ability was low, expressed many questions and elicited needed information.

Noreen wrote series of letters with no signs of invented spelling. In Trial 1, she wrote six letters in a line but when she finished she added two circles, each one around three letters. She explained that the circles were to keep the parts from getting mixed up.

Example 12, Noreen, 1-20-81 (Trial 1):

In Trial 2, Noreen wrote three lines of letters, again with no sign of invented spelling. For Trial 3, however, she explained her writing, giving three different explanations about spacing. She wrote three lines of letters just as she had done for Trial 2. For Trial 3, there were clear indications that she considered the lines to stand for her description of the race that was used as a stimulus for the composition. Thus, she can be judged to be using an invented writing system even though it was not invented spelling. In explaining the spacing, first, she said that each line stood for one of the three children and that child's part in the race. Second, she put dots between each line. Finally, she underlined each line. When she put the dots and the underlinings, she commented

that they would help her know whose "part" each line was. Thus she explained three different ways of representing segmentation.

Mike is the child who showed the least ability to indicate his understanding of word boundaries; this was because his productions were so scanty. In Trial 1, he made only one mark that seemed to be accidental rather than intended as writing. In Trial 2, he attempted to sound out a word, space, but only marked two letters, a backward S and an A. His writing, 2 A, was less complete than his sounding-out; in sounding-out, he indicated a final /S/ but he did not include a second S. For Trial 3, he showed more endurance in writing; this time he copied letters from the crayon box. In contrast with Chad, however, Mike showed no awareness of the word boundaries and copied letters from within words and across word boundaries. He did ask the examiner questions throughout, at first trying to discount his ability and later showing curiosity about how print works.

The final child in the "low" category, Richard, asked numerous questions about word boundaries. He, like Mike, did almost no independent writing but he insisted upon copying his dictated story each time he was asked to write. Unlike the other two "low" children, Richard's re-reading attempts used word-by-word phrasing that sounded like reading, even though he could not get his finger, voice, and the print aligned.

For Trial 1, Richard showed a number of interesting behaviors.

First he copied part of his dictated story, writing left to right, until he ran out of room on the page. Then he turned the paper to the reverse side to continue. Instead of continuing from where he left off, however, he began to trace the original part through the paper in right to left order, reversing all letters, to "make it straighter." Like children in Marie Clay's (1975) samples, he seemed to be influenced by the position of the paper and his starting point. Later, when asked to "invent" spelling for big wheel on the same side of the page, he wrote (and sounded-out) from left to right once again. His internal segmentation for big wheel was excellent, with a sound for each part sequentially, even though his spelling encoding was quite abbreviated and non-exclusive.

Richard asked a number of word boundary questions in Trial 1. He was copying from dictation that contained conventional spaces but he did not leave spaces in his copied versions. Among the ways he asked about word boundaries are the following:

Example 13a, Richard, 2-3-80 (Trial 1)

Child: I wan--are these both together?

Adult: Show me.

Child: Are these--does T and Y, does T and I go to this? (Pointing to word after it. Questioning was aiming at whether words it and and are one unit.)

Adult: To this one here? (Pointing to and.)

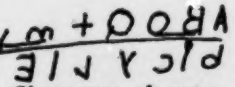
Child: (Nodded yes.)

Adult: No, uh-uh, it's got a space in between it, see.

Child: Uh-huh. (Adult said yes; child took paper back and continued copying.)

Many of Richard's problems involved getting lost in his copying. Then he would want to know if parts "go with" other parts. Additionally, he did not seem to treat words as stable, non-overlapping units. He had copied About my bicycle backwards after copying it forwards. He then re-read it with the examiner's help and the examiner asked him to underline each word separately. (Note his voluntary use of letter-sound information.)

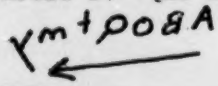
Example 13b:

Child's copying: 

Adult: --Show me about.

Child: /bə/ (splosively)

Adult: Draw a line under it.

Child: Why? (Short pause) Why should I? (Pause) So I could (breath) make it, uh, what? (Pause) Why should I? (He then did it, underlining  from right to left.)

Adult: That's about? OK, where's my?

Child: No! Right here! (Indicating)

Adult: Draw a line under my. (Child did.) OK. Where's bicycle?

Child: Bicycle? /b/ Right here! (Indicating)

Adult: Draw a line under it.

Child: Oh, boy! I already drawed a line under them.

Adult: OK (accepting his effort). Now you drew a line under about, my, and bicycle. Where--what's left?

Child: Q and us! (Laughing, seemingly about his letter U which he had called Q.)

It was not always clear what Richard was learning from these exchanges but he continued to ask questions about word boundaries. Those questions became more specific and also revealed more evidence of Richard's growing notions about how word boundaries work. In Trial 3 he was still insisting that he could not write on his own but had to copy. In this trial, however, he showed awareness of word boundaries and was able to align his voice to print for a brief stint in re-reading. In his writing he inserted large dots between pairs of words. His explanation was somewhat confusing, yet he seemed to indicate Clay's notion that word boundaries not only separate but they also show combination. When the examiner asked him what the dots were for, he said they were "to get these across." Then he said they were to get them (words) together, then corrected himself: "No, not put them both together."

The low children seem to be going through a period of much exploration and discovery. They may be asking the kinds of questions that Durkin (1966) and Read (1975) report that high ability children have asked their parents at a younger age. Most of these reports of early reading, writing, and spelling acquisition are retrospective, coming from parent interviews. In the following section, questions asked by Douglas are given as a possible example of how such a child gets and uses information about word boundaries. Douglas is a "moderate" child who has more knowledges about written language than do the "low" children. It might be expected that the

"low" children would exhibit equally complex questioning and elicitation as they mature.

Extended Example of Word Boundary Problem

The following example recounts one child's struggle with a word boundary problem. It is interpreted in light of other research in early literacy acquisition.

Douglas is a child judged to be "moderate" in emerging reading ability at the beginning of his kindergarten year. He maintained that relative standing in comparison with the other case study children. Throughout the year he made good, steady progress in becoming an independent reader and writer but he was not independent by the year's end.

Competent, or well-functioning, to use Marion Blank's (1973) term, is an apt description of Douglas. He is lively but rather quiet. He gets along well with other children, both boys and girls. They seek him out as a playmate and fellow worker.

In the sessions of our study, the examiner assigned to Douglas enjoyed him. Such enjoyment of a child's company has been noted by Clark (1976) and Durkin (1966) as typical in the parent-child relationships of young fluent readers. Doug is not an early fluent reader but we propose that he is now showing many of the characteristics reported for such children.

The characteristic that we are primarily concerned with in this example is the ability to ask questions and elicit aid from an

adult. Such behavior was reported by parents in studies by Clark (1976), Durkin (1966), and Read (1975). In the example that follows the examiner will not show typical behaviors for the parents, however, in one respect. The examiner was instructed not to introduce linguistic terms nor to assume that she knew what the child's concepts were. Hence, she probably volunteered less information than a parent might and she did far less "teaching" than is reported in recent parent-child transcripts.

In the example, Douglas is trying to re-read a story which he has just dictated to the examiner. The story is about himself and how he learned to ride a big wheel. The story is presented in manuscript to illustrate the kind of writing the child was reading and the placement of words on the page which is an important part of the problem Douglas tries to solve.

Example 14a, Douglas, 1-22-81 (Trial 1):

line 1 My mom and dad
line 2 were with me when
line 3 I did it and my
line 4 sister and brother
line 5 were with me, too.
line 6 I wanted it cause
line 7 I wanted fun. So
line 8 I got one. And
line 9 another reason why
line 10 I want one . . . .

Douglas began to attempt to re-read, using his memory for the dictated text as an aid. He pointed to line 1 and recited the first sentence as he had dictated it; then he pointed to line 2 and gave the second full sentence. He then had a problem because he had already recited: "My mom and dad were with me, too," and "Al-so--my sister, my brother, they were with me, too." He was evidently expecting the third line to read, "I wanted it cause I wanted fun," but he detected a problem. The printed third line does have "I" but Doug was troubled, as the following part of the transcript shows. In this section, the examiner has just asked Doug what he is pointing at (line 3).

Example 14b:

135 Child: The I. Thought I knew--I 1--I thought I knew, knew what that was, uh, knew it what, that was gonna say. (The following discussion is about line 3: I did it and my.)

137 Adult: Uh-huh.

138 Child: But I don't. But I forgot (under breath "what it was")
138 Adult: OK.

139 Child: (Louder, as if finishing above statement.)--say.
139 Adult: OK. So--you knew what it was gonna say--
139 Child: Yeah.

140 Adult: Yeah, but you got here (pointing), and what's that?
140 Child: I↓ (distinctly)

141 Adult: What'd ya think?
141 Child: Huhh. (Pause to 144.) Hmm. (Pause, 144-145.) I don't know it.

145 Adult: (Chuckling) OK. Well--you were sort-of pretend-reading it, huh?

146 Child: (Says something covered by adult comment.)
146 Adult: A little bit? Uh-huh.

At this point, the examiner offered one of the encouragements from the Examiner's Manual which were used to aid children attempting to read. She told Doug that she could help him; this encouragement usually ends with, "What do you want me to do?" to elicit the child's concept but Douglas voluntarily began to explain his predicament. His explanation indicates a problem about word boundaries. Notice that in this section he does not use any metalanguage but refers to "this" and "that," "that thing," then finally calls I by its name. Calling I by the letter name (152) does not clarify for the examiner what the child intends so the examiner tries to get Doug to explain. Example 14c:

148 Child: Hhh. (Short pause.) I don't really know if that thing goes--uh, if this goes with that. (I did, line 3.)

149 Adult: OK. It does. Uh-huh, sure does.

150 Child: Uh. (Pause, 150-152.)

152 Adult: Well, what'd ya mean, "goes with"? I'm sorry, maybe I didn't answer you right.
(Child begins answering while adult is saying "didn't answer.")
152 Child: That Iiii (elongated)→
152 Adult: Yeah→
152 Child: Did it go with this?

153 Adult: You mean, d'--what'd mean "go with"?
153 Child: Thought it could--does the I go with that?

154 Adult: This I is all by itself.

155 Child: Yeah.
155 Adult: Uh-huh, and this over here is all by itself. (Indicating I and did, line 3.)

156 Child: Yeah.
156 Adult: Uh-huh. Yeah.
156 Child: So does this go with that?

In the section that follows Douglas asserts, like the children in Papandropoulou and Sinclair's (1974) sample, that one letter cannot be a word. Then he decides that the I can only be the letter name I, "that's the only thing it can make," "the only thing it spells." Finally, after deciding it is I, Douglas begins to laugh in delight, as he realizes that it can be the word I. Notice the increasing specificity in his requests: earlier he had stressed the deictic words (this with that, 148), then the relationship this with that (156), but here he becomes more and more specific with metalanguage being used appropriately (letter, spells, word, 161-169):

Example 14d:

157 Adult: Hmmm. (Short pause.) If it went with it, what would it be?

158 Child: I don't know.

159 Adult: Oh, OK. Hmm. I don't know exactly how to answer your question, 'cause I don't know what you mean.

161 Child: See, like, this thing's one letter.
161 Adult: Yeah.
161 Child: And th, and that doesn't spell anything, just one letter.

162 Adult: I see.
162 Child: 'n, I'm wondering if this thing goes with, with these letters. (Indicating I and did.)

164 Adult: Uh-huh. To do what?
164 Child: To, like--'cause this one's all alone, and it can't make a w--and it ca, and it can't make a word.

166 Adult: I see. (Pause)

167 Child: The only letter it, the only thing it can make is, uh, I. (Said with extra stress.)

169 Adult: Yeah.
169 Child: That's the only thing it spells, I. (Pause.) Yeah.

170 Adult: OK, uh--

171 Child: (Interrupts, excitedly) Oooh! Iiiiee--
171 Adult: --I! (Child claps.) OK! (Both begin to laugh extendedly.)

The laughter marking this incident seemed to indicate high affect by the child and adult at this moment of discovery. Holdaway (1979) suggests that supported discoveries with positive affect between child and adult are important in the development of what he calls self-regulation in emergent reading.

In this instance, after the child and adult laughed and then discussed the discovery that there is a time when one letter can be a word, Doug went back to his pursuit of the reading attempt and was able to give the appropriate semantic interpretation to I. He was expecting the next clause to read "I wanted it," rather than "I did it," but as he read the line, he treated the I as being correct and questioned his miscue with wanted.

Discussion

This paper presents evidence that children of kindergarten age do indeed have varying concepts about word boundaries. They show these concepts differently in their attempts to write their own stories and in the voicing they do during composition and during re-reading attempts. There is a wide difference in the maturity of the writing systems of the children at different degrees

of emergent reading ability.

There were differences of two kinds that should receive further research attention. First, the children within each group varied in the kind of writing systems they used, even for the children who were able to read independently. These writing system differences may influence both children's ability to explore and also to represent word boundaries. For instance, the phonetically-based invented spelling may help children detect auditory cues to locations within words yet these children may not use space as a graphic representation of word boundaries. A child who uses little phonetically-based invented spelling but depends instead upon name elements, letter strings from the alphabet, or non-letter imitation cursive may represent word boundaries as space between graphic units but not tie those spaces to temporally-ordered sounds in the oral rendition of the intended written message.

Second, children vary in their ability to elicit and use adult help under the one-to-one conditions used in this study. Douglas is an example of a child who is not particularly advanced in emergent reading ability yet who shows behaviors that have been associated with early fluent pre-school readers. The sample used in this study was small and the occurrences of extended questioning were limited. In this sample, the questions about word boundaries came from children who were moderate or low in emergent reading abilities. Previous research (Clark, 1976; Durkin, 1966; Read, has described such questioning behavior from retrospective reports

from parents of early readers and writers. Perhaps children who learn to read and write early and easily have asked questions of their parents and the children who are less precocious are ready to use their curiosity about print at the time when more formal schooling begins. Research thus far has given little evidence about how children of any ability level actually elicit and use information about literacy from adults. This study presents only a small bit of evidence from a small number of children. Perhaps these data, along with the suggestions coming from the accounts in previous research (Clark, 1976; Durkin, 1966; Read, 1975) will lead to better designed research concerned with how children make the transition from pre-reading to reading both with and without formal instruction. How children deal with word boundaries certainly would be only a small part of the research endeavor.

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[1]Examples for Jodie and Nicole have been reconstructed to hide their identity. Children who use their name elements have been reported in other research in early literacy (for example, DeFord, 1980) and the uses seem to be similar.